

MISSOURI DEPARTMENT OF TRANSPORTATION



# Show-Me **ZERO**

Driving Missouri Toward Safer Roads

Missouri's Strategic Highway Safety Plan  
**2021-2025**



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[www.savemolives.com](http://www.savemolives.com)





# Show-Me ZERO

Driving Missouri Toward Safer Roads

Missouri Department of Transportation | Missouri's Strategic Highway Safety Plan | 2021-2025

Fellow Missourians,

Imagine a future where no one dies in a traffic crash.

It seems hard to envision right now, with crashes claiming more than 36,000 lives across the country and nearly 900 in Missouri each year. Unfortunately, these deadly events have become a common occurrence in our society and are often viewed as unavoidable. Here in the Show-Me State, the Missouri Coalition for Roadway Safety is committed to doing what we can to change this cultural norm. The traffic violence on our roadways is a public health crisis, one that deserves more attention and action from us all.

Fortunately, the road to zero deaths is not an impossible dream, and nearly every fatal crash that occurs is preventable. Over 90% of these crashes are the result of someone simply making a poor decision, primarily: driving too fast, driving distracted or driving impaired. When crashes do occur, we have too many people unprotected by proper safety devices like seat belts, car seats or helmets. These unnecessary risks are killing our loved ones and changing lives forever. While vehicle technology is constantly improving to address some of these concerns, we must not sit back and wait for technological advancements to relieve us of our personal responsibilities for using the transportation system in a safe manner. The cost is simply too great, and no technology will ever replace the impact of a safe driver.

The MCRS is committed to working every day to make Missouri's roadways safer. Likewise, we are asking all Missourians, from moms and dads to statewide officials, to lead by example in fostering a culture that prioritizes safety for ourselves and our fellow citizens. We all have a role to play, and that's what this plan is all about. Show-Me Zero is a resource everyone can use to identify and implement simple strategies to make our roads safer.

We applaud the efforts of those who have long worked for safer roads in Missouri, and we encourage all Missourians to join the mission in driving Missouri toward zero road deaths. We invite you to review this plan to identify how you can personally engage in this endeavor.

Let's show each other what we can do. Together, we can Show-Me Zero.

– Missouri Coalition for Roadway Safety Executive Committee



## CONTENTS

A Safer Missouri .....	6
The State of Safety in Missouri .....	11
Emphasis Areas .....	16
Special Road Users .....	26
Strategies .....	30
About Us .....	40
Glossary .....	42

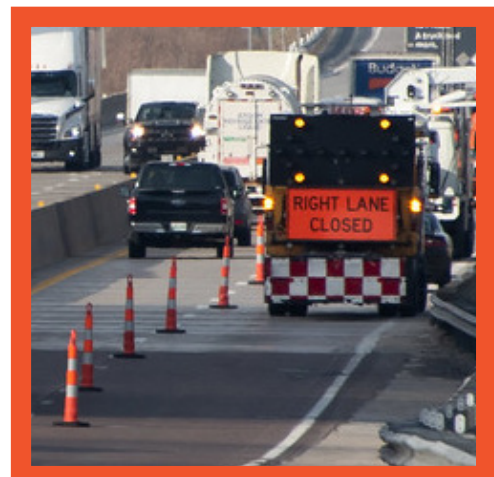
# A SAFER MISSOURI

Imagine the world five years from now.

What will it be like? In some ways, things may look a lot like they do today. In other ways, things may look significantly different. What if this were the case with safety on Missouri roadways? What if instead of losing 900 lives each year in traffic crashes, that number was cut in half? What would that mean for our state? While an annual death toll of 500 is still alarming, the progress would be unmistakable, and the Show-Me State's ultimate vision of zero traffic fatalities would be as close as it's ever been.

**Can this really happen?** Some say no, that severe traffic crashes are simply the cost of doing business in a mobile society. Others, however, know there are steps we can take to do better. This strategic highway safety plan is intended to outline those steps. By providing every Missourian at least one action they can take, we can change the outlook of highway safety in Missouri over the next five years.

Consider the following ways we can improve. First, we can do more to ensure everyone is aware of the dangers associated with risky driving behaviors. While many programs focus on youth, the broader message must be shared with all Missourians. All road users should commit to safer driving behaviors while expecting the same from others. In the same way drunk driving was villainized decades ago, common behaviors of excessive speed, distracted driving and drug-impaired driving must become socially unacceptable. Seat belt use must become even more common. If the 12% of the population who aren't buckling up started doing so, nearly 240 lives would be saved each year. For these changes to happen, highway safety will need to become a regular topic of discussion in everyday occurrences from local town halls and school activities to workplace safety meetings.





Of course, awareness alone won't result in change. After all, it's not as if Missourians are simply unaware of the impacts associated with traffic crashes. However, as the issue becomes more properly viewed as a public health crisis, the door is opened for substantial progress in public policy. As more Missourians demand safer roads, state and local officials will be more inclined to consider measures that reinforce safe driving. Missouri currently ranks among the worst in the nation for laws supporting highway safety, but passage of proven legislation can quickly change that reality and set the tone for higher expectations.

Advancements in public policy would also give way to more effective traffic enforcement programs. Effective legislation better equips law enforcement agencies to serve and protect transportation users. As a result, more agencies can commit resources to traffic enforcement, a move that will not only make roads safer but has also proven effective in reducing crime. It's another layer in the collective efforts to rid the state of severe traffic crashes.

2019  
FATALITIES:  
**880**

10-YEAR  
FATALITY TOTAL:  
**8,505**

ANNUAL SOCIETAL  
COST DUE TO MOTOR  
VEHICLE CRASHES:  
**OVER \$10 BILLION**

While Missouri cannot simply legislate its way to zero fatalities, there are several opportunities to strengthen the traffic safety culture, including:



A primary seat belt law requiring all vehicle occupants be buckled, regardless of seat location.



A hands-free law prohibiting all drivers from using a handheld electronic device.



Enhancements to child passenger safety laws, including rear-facing child seats until the age of two and combined age, height and weight requirements before moving to a booster seat.



Stronger requirements for a graduated driver license.



Progress doesn't end with education, public policy and enforcement. Transportation agencies must step up their game by regularly evaluating road networks for potential improvements. Using robust data-driven analysis, both MoDOT and local public agencies can become more astute in maximizing the results of safety projects. In addition, agencies should consider a "safe systems" approach. This philosophy recognizes human error still exists and aims to create a roadway environment that is more forgiving should a crash occur.

Finally, technology will play a critical role in moving Missouri toward zero traffic fatalities. The state should continue pursuing advancements in emergency medical services that provide crash victims a greater chance of survival. More communities can come online with Smart 911 and upgraded dispatch systems that result in quicker response times. Vehicles will continue to become smarter and safer.

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**By providing every Missourian at least one action they can take, we can change the outlook of highway safety in Missouri over the next five years.**

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While the state awaits the deployment of more connected and autonomous vehicles, we can begin investigating ways to make the transition to a safer fleet more feasible for all users. These new technologies can help fill any remaining gaps by eliminating or minimizing poor driving behaviors.

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A safer Missouri is a better Missouri. As we move closer toward zero traffic fatalities, our quality of life is improved, economic costs are lowered and our communities function more effectively.

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If zero still seems far-fetched, we can all agree significant progress toward this goal is achievable. Furthermore, consider how such unprecedented results would improve the quality of life in Missouri. In 2019, it is estimated severe crashes cost the state over \$10 billion in societal impacts, and first responders, medical facilities and insurance companies responded to over 400 crashes every day. More importantly, countless lives would be saved. As a result, we'd all spend less time worrying about safe transportation and enjoy more time with loved ones celebrating birthdays, anniversaries and other important milestones.

Our communities would also benefit by having a greater ability to commit resources to other critical needs. In addition, mobility for all users of the transportation system would become more reliable, and the overall costs for health care and insurance could be lowered.

As we present this plan to spur actions, we understand there is much work to do. If successful, we will be closer than ever to zero traffic fatalities. How can you help? We invite you to review the rest of this plan for strategies we can all help implement. True to our state nickname, let's show the world a safer Missouri.

Welcome to Show-Me Zero.



# REALITY CHECK:

## The State of Safety in Missouri

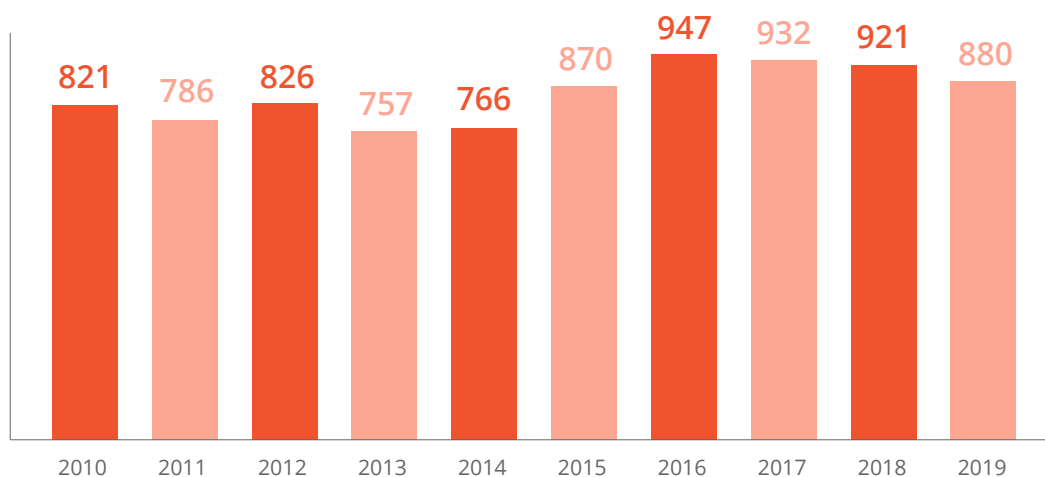
As exciting as a safer Missouri sounds, a lot must be accomplished in the next five years for it to become a reality. In 2019, there were 880 individuals killed in Missouri traffic crashes. While this represents three straight years of modest reductions, the numbers are still staggering and not worth celebrating. Compared to just five years ago, Missouri is barely treading water in terms of suppressing the number of deaths occurring on the state's roadways.

Compared to the five years before that, the state has regressed in moving toward zero deaths.

In 2020, new concerns have come to light as traffic deaths have increased during the COVID-19 pandemic. Traditionally, two factors have been most linked to the number of crashes:

- THE AMOUNT OF TRAVEL
- HUMAN BEHAVIOR

### MISSOURI TRAFFIC FATALITIES



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## Lack of seat belts, along with speed, distraction and impairment account for more than three-fourths of traffic fatalities in Missouri.

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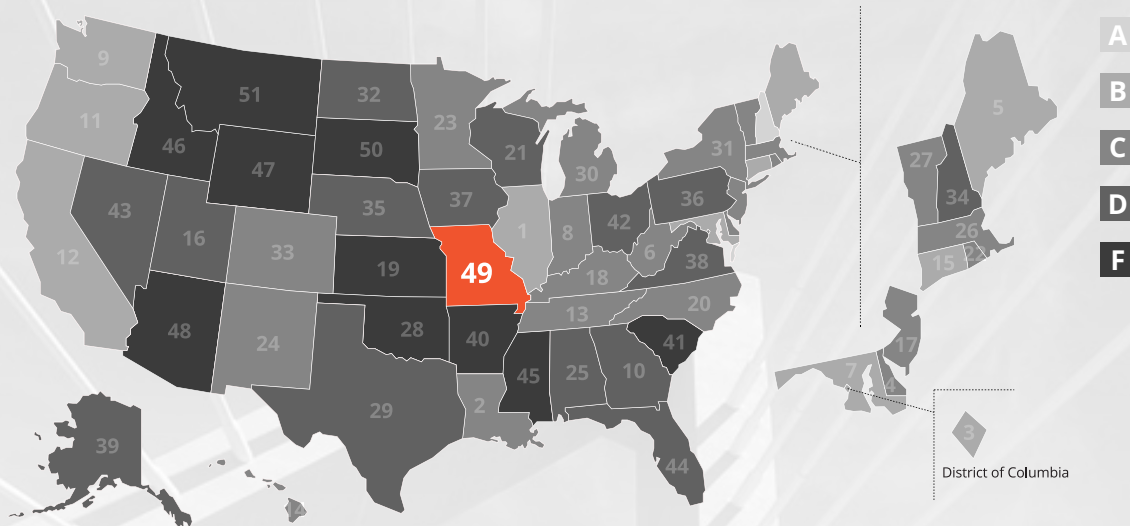
The number of miles driven in the state has steadily increased over the past decade, reaching an all-time high of 78 billion vehicle miles traveled in 2019. Thus, there is more opportunity for traffic crashes to occur than ever before.

As the number of miles traveled has increased, so has the prevalence of risky behaviors such as excessive speeds, aggressive driving, distraction and impairment. These factors, along with choosing not to wear a seat belt, account for more than three-fourths of traffic fatalities in Missouri. Given such behaviors aren't always identified, the percentage is likely even higher.

On the surface, this implies there are two approaches to reduce traffic crashes: either reduce the amount of travel or reduce the prevalence of risky behaviors. In many respects, substantial travel is considered a positive indicator. More travel is typically associated with a robust economy, greater accessibility to goods and services and the convenience of enjoying leisure activities. Therefore, an approach to reducing travel is often in conflict with other desired outcomes in society.



IN 2017, MISSOURI RECEIVED AN “F” FROM THE NATIONAL SAFETY COUNCIL AND AN OVERALL ROAD SAFETY RANKING OF 49 OUT OF 51.



On the flip side, reducing the frequency of poor behaviors can prevent crashes without sacrificing the convenience and benefits of plentiful travel options. Furthermore, recent data during the COVID-19 pandemic suggests even a substantial reduction in travel can't mitigate the consequences of risky driving and may even increase these behaviors. In fact, while travel in the state decreased as much as 50% during statewide stay-at-home orders, traffic fatalities increased. Thus, changing human behavior and creating a culture of safer driving offers the greatest opportunity for improvement.

**From a national perspective, Missouri is lagging in this regard.**

The state recently received two unfavorable reports from safety advocacy groups focused on public policy and cultural acceptance related to highway safety. In 2017, Missouri received an “F” from the National Safety Council and an overall road safety ranking of 49 out of 51. The report labeled Missouri as “off-track” in seat belt use, child passenger safety, distracted driving, speeding, teen drivers and vulnerable road users. Striking a similar tone, the Advocates for Auto and Highway Safety released its 2020 Roadmap Report labeling Missouri as one of the worst states in adopting optimal highway safety laws. Missouri was graded poorly for policies related to seat belts, child passenger safety, teen driving requirements and distracted driving.



The Missouri Coalition for Roadway Safety has focused this plan on addressing four key behaviors during the next five years:



## OCCUPANT PROTECTION



## DISTRACTED DRIVING



## SPEED AND AGGRESSIVE DRIVING



## IMPAIRED DRIVING

These emphasis areas apply to virtually every road user in Missouri. No group or demographic is unrepresented. As a result, the strategies in this plan apply to all users of the state's transportation system. That said, there are a few roadway user groups who are overrepresented in the data. Specifically, the MCRS identified three groups warranting additional attention:

■ TEEN DRIVERS

■ OLDER DRIVERS

■ PEDESTRIANS  
AND OTHER NON-  
MOTORIZED USERS

Collectively, these groups account for some of our most vulnerable road users. More information on these groups can be found on page 26.

By focusing on these four emphasis areas and three roadway user groups, Missourians across the board can help address the primary underlying causes of most fatal traffic crashes in the state. The following sections of this plan provide more information on these emphasis areas and the specific strategies we can all implement to foster change.



By focusing our efforts in a few key areas, we have a unique opportunity to significantly alter the state of safety in Missouri during the next five years. However, doing so will require the collective efforts of us all. There is no single agency, legislation, program or project that can fix this problem. A comprehensive approach of education, public policy, enforcement, engineering and emergency services is our best hope to turn the tide. In this way, we significantly increase our chances of protecting all users of the system. Ultimately, our success will be dependent upon everyone's willingness to take personal responsibility for safely using the transportation system and demanding others do the same.

Together, we can do this.  
Together, we can

# Show-Me **ZERO**

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Taking a few moments to properly secure yourself and loved ones is the single greatest way to increase your likelihood of surviving a crash. Seat belts, car seats and helmets go a long way in minimizing the consequences of crashes regardless of why they occur.

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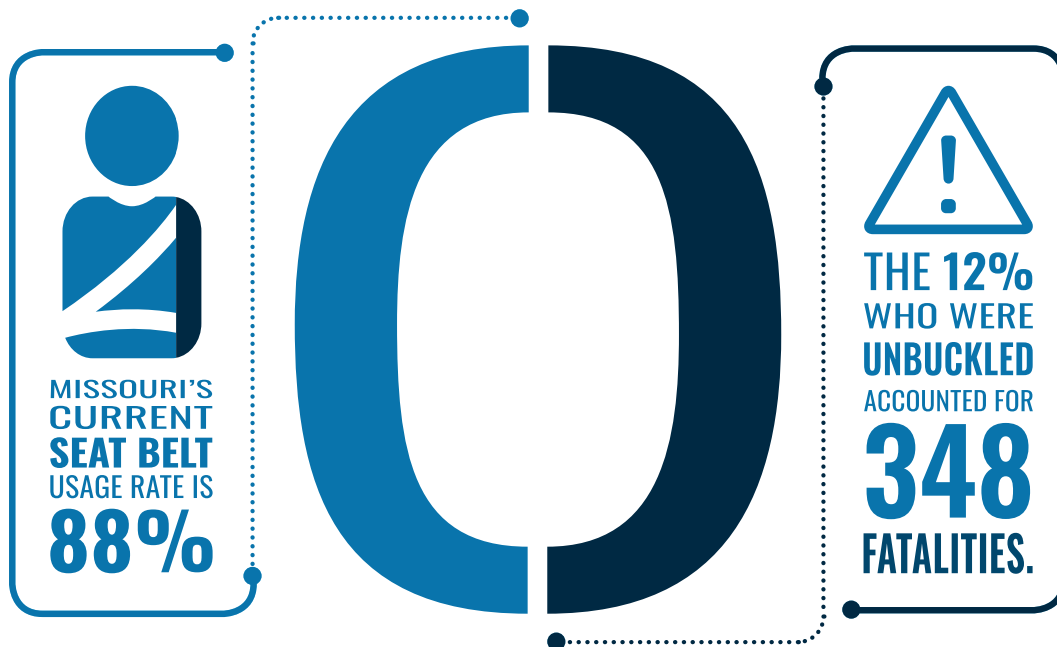


# Emphasis Area 1: Occupant Protection

Taking a few moments to properly secure yourself and loved ones is the single greatest way to increase your likelihood of surviving a crash. Seat belts, car seats and helmets go a long way in minimizing the consequences of crashes regardless of why they occur.

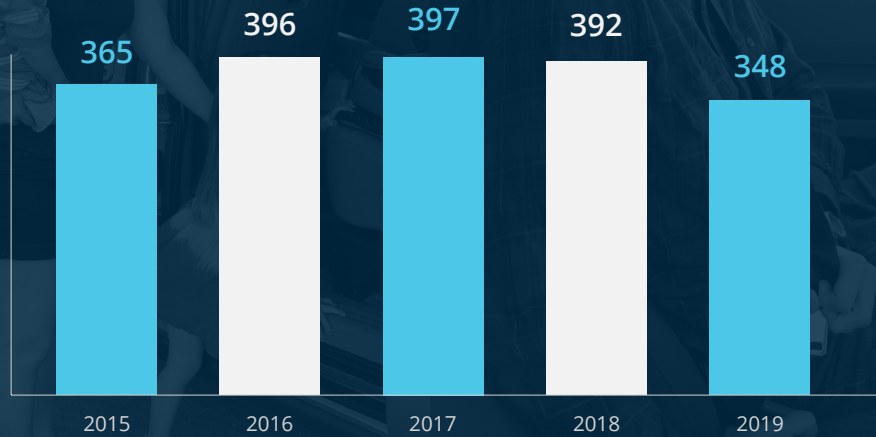
Currently, approximately 88% of drivers and passengers on Missouri roadways buckle up. The other 12% account for nearly two-thirds of vehicle occupants

killed in traffic crashes. Unbuckled drivers and passengers are not just risking their own safety. They also increase the risk of injury to other passengers by 40%. **The bottom line is seat belts are the most impactful and efficient way to save lives in the event of a crash.** In fact, if all drivers and passengers on Missouri roadways buckled up, an estimated 240 lives would be saved every year.



**If everyone had buckled up, an estimated 240 people would still be alive.**

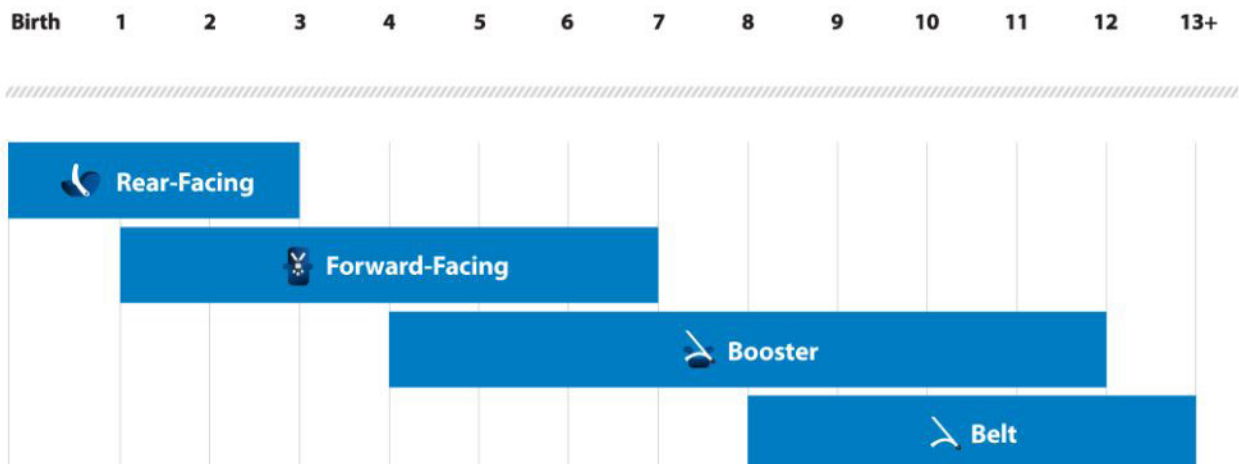
## MISSOURI UNBELTED FATALITIES



Unfortunately, these crashes often claim the lives of children as well. Car seats can reduce serious injury and death of children by up to 71% if used correctly. However, it is essential for children to be properly secured in the car seat best

suited for them based on their age, height and weight. Be it rear-facing, a convertible seat or a booster, securing children with the proper restraint is the most effective way to protect them in the event of a crash.

## TYPES OF CAR SEATS AND RECOMMENDATIONS BY AGE



Source: NHTSA.gov

## THREE ACTIONS EVERYONE CAN TAKE TO PROTECT THEMSELVES AND CHILDREN IN A CRASH:

- ▶ Always buckle up; every seat, every trip.
- ▶ Ensure all children ages 12 and under are properly secured in an appropriate car seat.
- ▶ If riding a motorcycle, bicycle or ATV, always wear a helmet.

Helmet usage by motorcyclists, bicyclists and ATV riders is another crucial form of occupant protection. DOT-approved helmets save approximately 60 lives per year in Missouri and save Missourians over \$600 million in comprehensive societal costs annually (NHTSA). Like seat belts, helmets are often viewed as a matter of individual choice. However, the

consequences of not using a helmet extend beyond the individual rider. Choosing not to wear a helmet can have long-term impacts on family and friends, first responders and overall societal costs. Regardless of the law, we encourage everyone to always make the safe choice to wear an appropriate helmet.



HELMETS REDUCE THE  
CHANCE OF FATAL INJURY  
BY **42%** AND REDUCE THE  
RISK OF SUSTAINING A  
HEAD INJURY BY **69%** FOR  
MOTORCYCLE RIDERS.

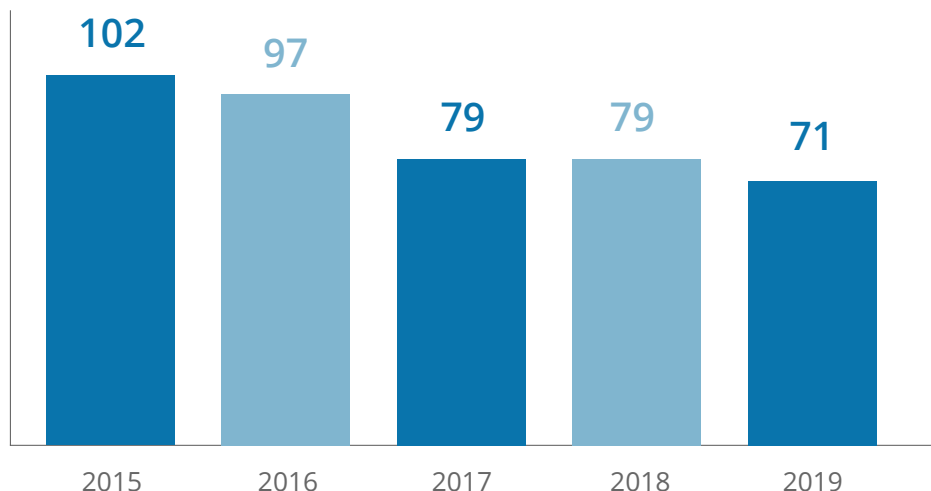
Source: Community Preventive Services Task Force

## Emphasis Area 2: Distracted Driving

In the last five years, perhaps no behavior on our roadways has become more alarming than distracted driving. Distracted driving is anything that diverts the driver's attention from the task of driving. Cellphone-related crashes in particular are one of the fastest growing causes of traffic crashes in Missouri, increasing by more than 30%. Furthermore, we know this behavior is under-reported in traffic crashes, thus contributing to even more crashes than the data suggests.

Even though the number of reported distracted driving fatalities in Missouri has declined during the last five years, there remains much work to do in this area. A recent survey of Missourians indicated distracted driving is the most commonly observed risky behavior on Missouri roadways, a scenario many encounter on a daily basis.

### MISSOURI DISTRACTED DRIVING FATALITIES

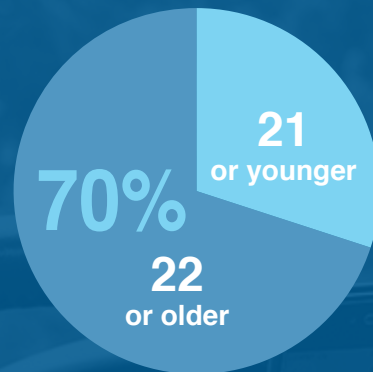




Missouri law currently only specifically prohibits texting and driving for operators age 21 and under. **However, 70% of all drivers cited in cellphone-related crashes in Missouri were age 22 or older.** One of the strongest

moves the state could take in this regard is to enact a hands-free law prohibiting all drivers from using a handheld electronic device while driving. States with a hands-free law for all drivers have seen, on average, a 15% decrease in fatality rates within two years of adoption.

Missourians have identified cellphones as the most concerning behavior they readily observe on our roadways, supporting recent data from AT&T that nearly 9 in 10 people engage in some level of smart phone usage while driving. **Sadly, over half of the distracted driving fatalities in the state were of someone other than the distracted driver.** Like impaired driving, it's time to change our cultural acceptance of distracted driving and take responsibility for these preventable crashes.



**12** OUT OF **15**  
**STATES**

AND THE DISTRICT OF COLUMBIA EXPERIENCED A DECREASE IN FATALITY RATES WITHIN 2 YEARS OF PASSING A HANDS-FREE LAW.



These 15 states experienced an average decrease in the fatality rate of 15.3%.



Six states and the District of Columbia experienced a decrease of more than 20%.

Source: NHTSA

## Emphasis Area 3: Speed and Aggressive Driving

In today's hurried society where everything is desired instantly and schedules are filled to the brim, speed and aggressive driving can be identified in nearly all drivers. We hurry to get everyone to their destinations on time without proper respect for other drivers and our own safety.

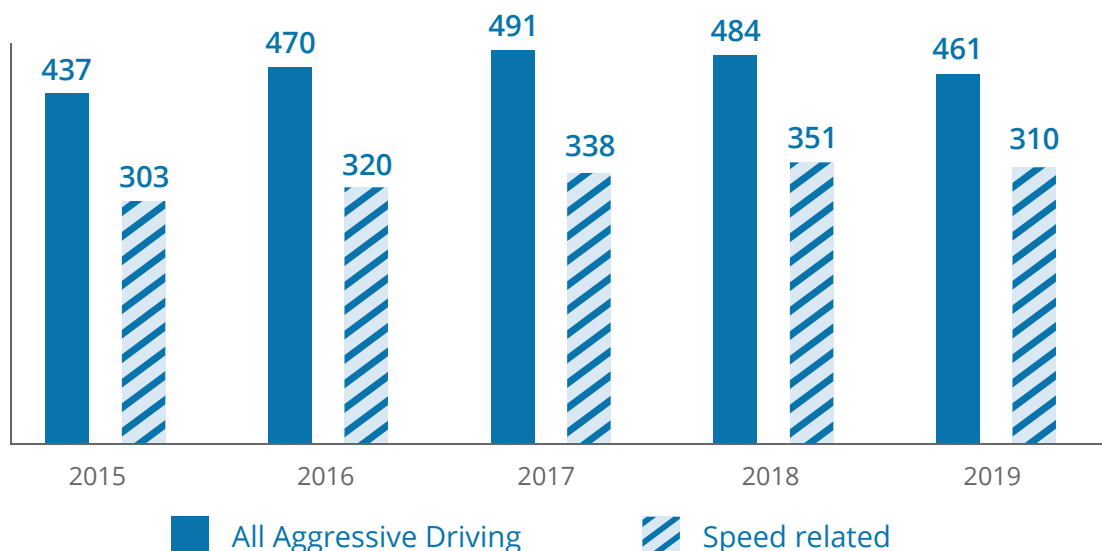
Nearly 40% of all traffic fatalities in Missouri involve speeding or driving too fast for conditions, the most commonly cited contributing circumstance in Missouri fatal crashes. As much as we emphasize the dangers of impaired driving, speed is listed as a contributing circumstance for fatal crashes nearly twice as often as impairment. In addition to speed, aggressive driving behaviors of following

too close and improper passing can have a significant impact on fatal crashes. Combined, more than half of the fatal crashes in Missouri involved one of these behaviors.

Speed is not only a critical factor in the severity of vehicle crashes, but it is usually the determining factor in the outcome of crashes involving pedestrians and bicyclists. When struck at 20 mph, a pedestrian has a 90% chance of surviving a crash. At 40 mph, the chance of survival drops to just 20%.

Personal responsibility is key as we move toward zero fatalities. We must understand our need for speed is killing us and actively work to combat it.

### SPEED AND AGGRESSIVE DRIVING FATALITIES



SPEED AND AGGRESSIVE DRIVING ARE THE MOST COMMON CONTRIBUTING CIRCUMSTANCES FOR FATAL CRASHES IN MISSOURI.



SPEED WAS CITED AS A CONTRIBUTING CIRCUMSTANCE FOR FATAL CRASHES NEARLY TWICE AS OFTEN AS IMPAIRMENT.

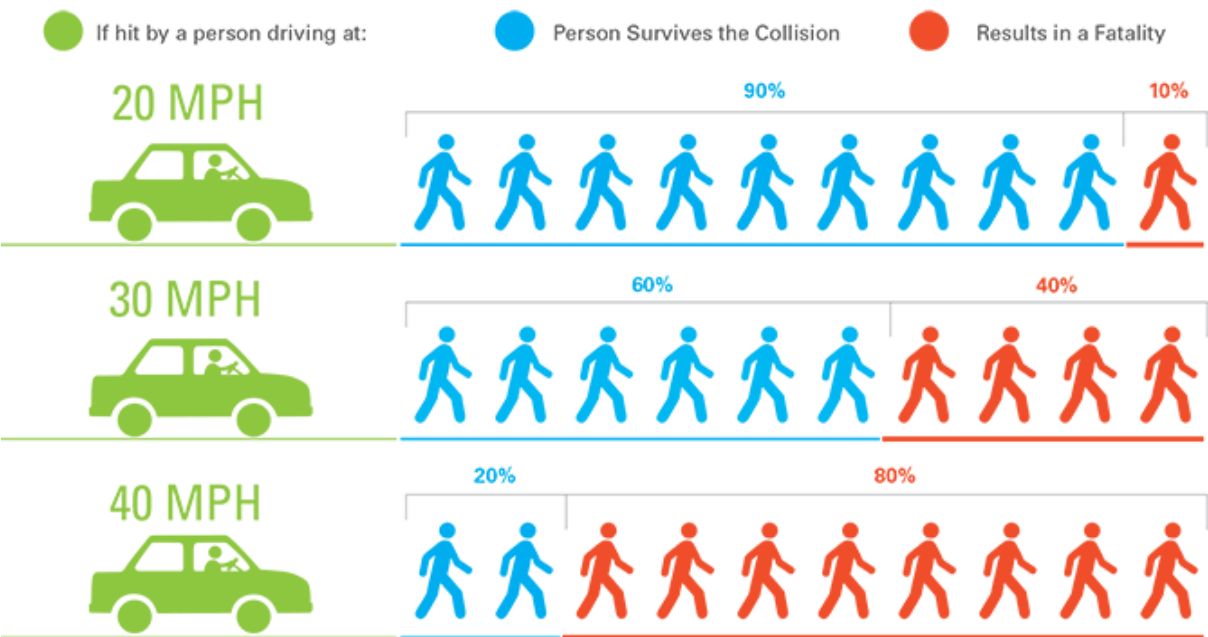
INCREASING YOUR SPEED BY JUST 5 MPH CAN:



INCREASE NECESSARY BRAKING DISTANCE BY AS MUCH AS 90 FEET (AASHTO).



INCREASE THE LIKELIHOOD OF A FATAL CRASH BY APPROXIMATELY 24% (USDOT).



Data source: USDOT  
Image source: San Francisco MTA Vision Zero Action Plan





## Emphasis Area 4: Impaired Driving

Impaired driving is not limited to alcohol use. It also encompasses drugs, including prescription medications, and physical impairments such as drowsy driving, poor vision or diminished cognitive capabilities as individuals age.




For the past several decades, significant strides have been made in addressing drunk driving through a combination of public messaging, tougher laws and

increased enforcement. While alcohol-impaired fatalities have declined, drug-impaired fatalities have been trending upward in recent years. Furthermore, new challenges have presented themselves in recent years such as the national opioid crisis and increasing marijuana use among drivers. As was done for alcohol, it is important for Missouri to clearly communicate that it's never okay to drive impaired, regardless of the substance.




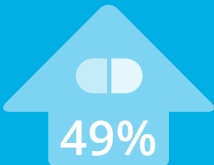
Though not a substance, research has consistently shown fatigued drivers often operate similarly to substance-impaired drivers. In fact, the Governors Highway Safety Association reports that driving after 21 hours of no sleep has the same impact as a 0.08 blood alcohol content, the legal limit in Missouri. Furthermore, more than half of the drowsy driving crashes in the US involve a driver age 25 or younger.

Other forms of impairment can include physical or cognitive limitations that inhibit a driver’s ability to adequately observe, react and maneuver as necessary. All potential drivers, regardless of age, should be examined to ensure they are fit to drive. For some, this may require more frequent screening than usual by family members or health professionals.




TWENTY-ONE HOURS WITHOUT SLEEP HAS A SIMILAR EFFECT TO A **0.08** BLOOD ALCOHOL CONTENT, THE LEGAL LIMIT IN ALL STATES.

Source: GHSA.org

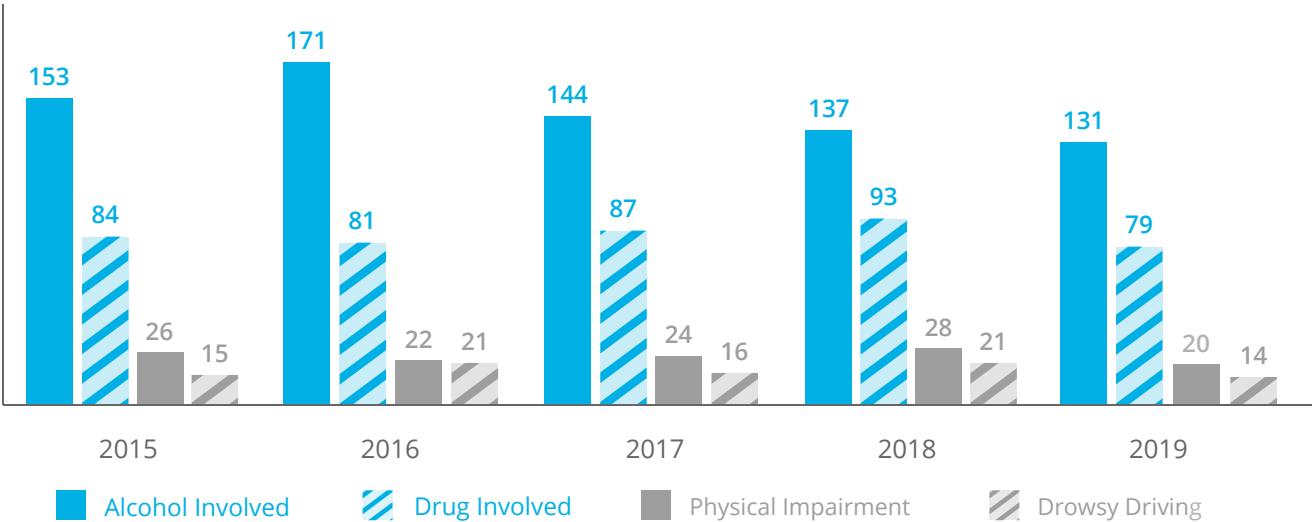


IN THE LAST TEN YEARS, DRUG-IMPAIRED FATALITIES HAVE INCREASED BY 49% WHILE ALCOHOL-IMPAIRED FATALITIES HAVE DECREASED BY 34%.



IN MISSOURI, **ONE IN FIVE** TRAFFIC FATALITIES INVOLVED A SUBSTANCE-IMPAIRED DRIVER.

## IMPAIRED DRIVING FATALITIES





# SPECIAL ROAD USERS

## A Plan for Teen Drivers, Older Drivers, Pedestrians and Bicyclists

While traffic crashes in Missouri are associated with all types of drivers and road users in the state, there are a few groups overrepresented in the data who warrant additional attention. Over the years, specific strategies have been developed to address these groups, many of which are included in this plan.

Teen drivers have historically been the focus group of many highway safety programs. With driver's education no longer offered in most Missouri schools, adequately preparing these inexperienced drivers before they begin driving has become more challenging. Thankfully, several programs, many of them peer-to-peer based, have proven successful in educating teens and promoting safe driving practices. On the other end of the spectrum, older drivers (age 65 or older) are increasingly

involved in Missouri's fatal and serious injury crashes. This is primarily a result of a growing population within this age group as the number of older drivers in the state has increased by about 25,000 licensed drivers each year. In addition, older drivers are typically more at risk for physical and cognitive impairments described in the previous section. Combined, teen drivers and older drivers are involved in approximately one-third of Missouri's fatal crashes.

## TEEN DRIVERS AND OLDER DRIVERS

ACCOUNT FOR APPROXIMATELY **25%** OF LICENSED DRIVERS IN MISSOURI.

YEAR	LICENSED DRIVERS AGE 16-19	% OF MO LICENSED DRIVERS	LICENSED DRIVERS AGE 65+	% OF MO LICENSED DRIVERS	TOTAL MO LICENSED DRIVERS
2015	198,677	4.7%	813,730	19.3%	4,224,657
2016	199,072	4.7%	842,949	19.8%	4,250,986
2017	199,576	4.7%	868,855	20.3%	4,271,518
2018	196,430	4.6%	889,534	20.8%	4,270,438
2019	193,529	4.5%	917,788	21.5%	4,267,831
5-YEAR TOTAL	987,284	4.6%	4,332,856	20.4%	21,285,430



**MORE THAN HALF** OF THE DROWSY DRIVING CRASHES IN THE U.S. INVOLVE A DRIVER **AGE 25 OR YOUNGER** (GHSA).



**MORE THAN ONE-THIRD** OF MISSOURI TRAFFIC FATALITIES INVOLVED EITHER A **YOUNGER (AGE 15-20) OR OLDER (AGE 65 OR OLDER) DRIVER**.

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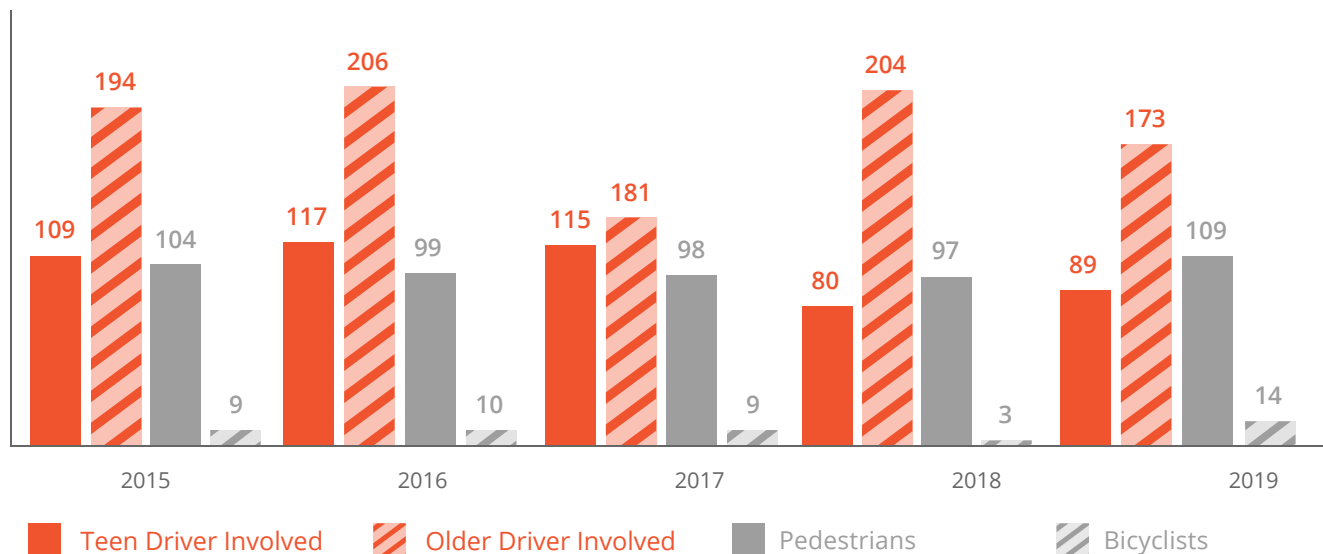
## A combined total of more than 100 pedestrians and bicyclists are killed each year in Missouri traffic crashes with speed, distraction and impairment being the primary causes.

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Another group warranting special attention in this plan is pedestrians and other non-motorized road users (e.g., bicycles, scooters). More than 100 of these users are killed each year in Missouri traffic crashes with speed, distraction and impairment being the primary causes. In addition, a significant portion of pedestrian fatalities in the state involve users who

did not begin their trip as a pedestrian. Rather, these individuals have exited their vehicle for various reasons and been subsequently struck by a vehicle, often on high-speed roadways. Progress in this area will require increased responsibility and positive behaviors from both drivers and the non-motorized road users.

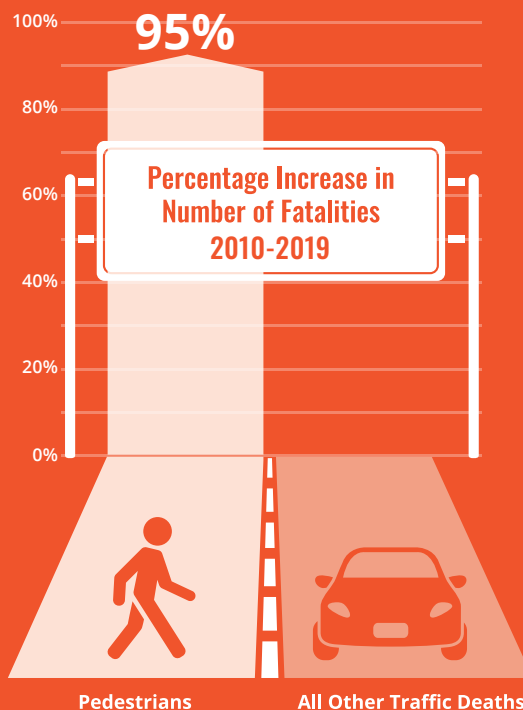
## FATALITIES INVOLVING TEEN DRIVERS, OLDER DRIVERS, PEDESTRIANS AND BICYCLISTS







SINCE 2010, PEDESTRIAN AND BICYCLIST FATALITIES IN MISSOURI HAVE INCREASED **BY 95%** WHILE ALL OTHER TRAFFIC FATALITIES HAVE REMAINED **THE SAME.**

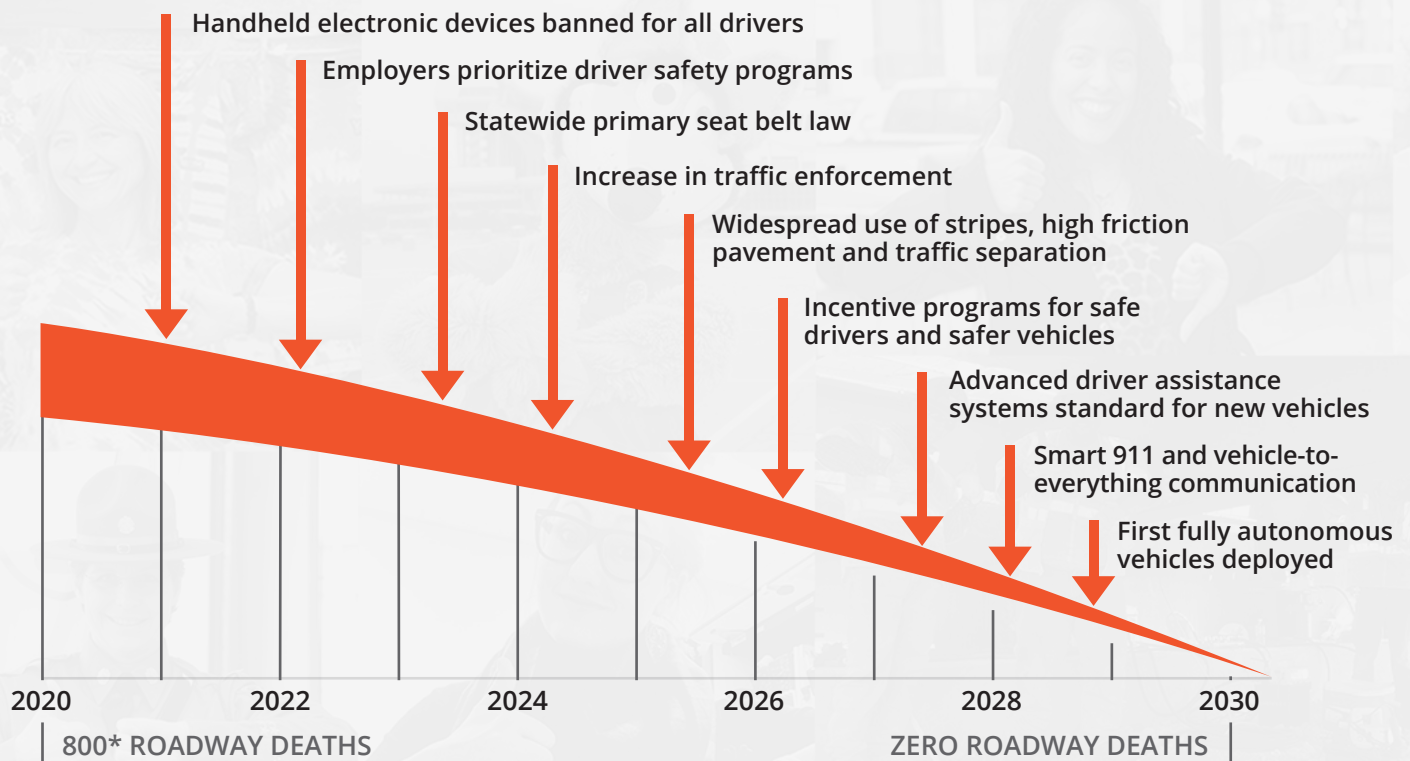


## DID YOU KNOW?

Approximately 10% of pedestrians killed on Missouri roadways did not begin their trip as a pedestrian. These individuals had exited their vehicle for various reasons (car trouble, prior crash, etc.).

# STRATEGIES

## EXAMPLE OF WORKING TOGETHER TOWARD SHOW-ME ZERO



## 2021-2025 Strategies

Changing the landscape of traffic fatalities in Missouri will require contributions across the board, from statewide agencies to private businesses and every individual who uses the transportation system. No one can do it all, but everyone can do something. The strategies highlighted in this section are potential actions we can implement depending upon available resources and in conjunction with sound judgment.

All Missourians are encouraged to find strategies on the following pages they can implement within their means and areas of influence. For additional support and resources, find more information on your local coalition at [www.savemolives.com](http://www.savemolives.com).

## FAMILIES AND INDIVIDUALS

- Always demonstrate positive driving behaviors:
  - Buckle up and ensure all passengers are properly restrained.
  - Put down your phone and other electronic devices.
  - Obey speed limits and maintain plenty of space.
  - Never drive drowsy or under the influence of any substance, including prescription medications.
  - If walking or riding your bike, use roads and facilities appropriately:
    - Utilize sidewalks, shared use paths and bike lanes, if available.
    - Cross the street at visible, marked locations.
    - Put your phone in your pocket and keep headphone volumes low.
    - At night, be sure to wear clothing that is highly visible.
    - If riding a bike, always wear a helmet.
- If you find yourself stranded along the roadway:
  - Make yourself visible by turning on vehicle hazard lights.
  - Remove your vehicle from the travel lanes if involved in a non-injury crash.
  - Remain in your vehicle with your seat belt on until help arrives.
- Have conversations with children early on about the importance of car seats, booster seats and seat belts. Explain the risks and potential consequences associated with excessive speed, distraction and impaired driving.
- Request your child's school promote traffic safety and participate in available traffic safety programs (see Schools on page 32).
- Monitor the driving skills of family members as they age or face changes in physical and cognitive abilities. Be prepared to have a conversation and intervene when necessary.
- Take advantage of highway safety courses and workshops in your community, many of which are free. Visit [www.savemolives.com](http://www.savemolives.com) for a full listing.



## TAKE THE CHALLENGE

Take the Buckle Up Phone Down challenge. Set the example for your children, friends and family.



Visit [www.modot.org/bupd](http://www.modot.org/bupd) to sign up.



## BUSINESSES AND CORPORATIONS

- Adopt a corporate policy requiring seat belt use for all employees on company time.
- Adopt a corporate policy restricting the use of handheld electronic devices while driving on company time.
- Provide traffic safety information to customers explaining how they can help create safer roads. Visit [www.savemolives.com](http://www.savemolives.com) for available resources.
- Provide incentives or discounts for customers participating in safe driving behaviors.
- Take the Buckle Up Phone Down challenge and host a BUPD day/week, encouraging all employees to participate ([www.modot.org/bupd](http://www.modot.org/bupd)).
- Promote traffic safety during workplace safety meetings.

## SCHOOLS (ALL LEVELS)

- Participate in available traffic safety programs geared toward youth, many of which are free. Visit [www.savemolives.com](http://www.savemolives.com) for a full listing.
- Task a student organization (FCCLA, SADD, Student Council, etc.) with raising awareness and initiating changes in driver behavior among students and staff.
- Host a Buckle Up Phone Down day/week, encouraging all students, parents and staff to take the BUPD pledge ([www.modot.org/bupd](http://www.modot.org/bupd)).
- Partner with Parents as Teachers, preschools and elementary schools to provide families with information on child passenger safety.
- Provide traffic safety information to all students during freshman/sophomore orientation and promote awareness during health classes.
- Promote the MCRS Smart Riders program for elementary-aged students ([www.savemolives.com](http://www.savemolives.com)).
- Conduct regular child seat safety checks at daycares, preschools and elementary schools.
- Promote driver safety programs available to college students. Visit [www.savemolives.com](http://www.savemolives.com) for a full listing.



## CIVIC ORGANIZATIONS AND OTHER COMMUNITY GROUPS

- Take the Buckle Up Phone Down challenge and promote it to members and the community ([www.modot.org/bupd](http://www.modot.org/bupd)).
- Host or sponsor presentations, workshops and other events to promote traffic safety.
- Work with schools, community leaders and elected officials to adopt public policy and/or deliver infrastructure improvements to increase safety.

## COUNTIES AND CITIES

- Provide critical highway safety information and training to newly elected officials, administrators, department heads and other positions of leadership.
- Adopt policies and ordinances that reinforce a culture of safety.
  - Adopt a policy requiring seat belt use for all county/city officials and employees when conducting official business.
  - Adopt a policy restricting the use of handheld electronic devices while driving for all county/city officials and employees when conducting official business.
  - Enact a primary seat belt ordinance allowing enforcement of seat belt use as a stand-alone violation.
  - Enact an ordinance restricting the use of handheld electronic devices for all drivers.
- Make a commitment to vigorous, visible traffic enforcement.
- Upgrade computer-aided dispatch systems and protocols to ensure responders are sent to the correct location the first time and receive critical information to provide an appropriate level of care.
- Launch a 911 system accessible to all residents, preferably a Smart 911 system.
- Implement safety improvements in infrastructure projects (see Public Works on page 36).
- Adopt design standards that encourage alternate modes of travel and enhance safety for pedestrians, bicyclists and other non-motorized users.
- Use traffic offender programs to educate first-time or repeat offenders on the risks and societal impacts of poor driving decisions.
- Research the use of DWI and drug courts for treating repeat impaired driving offenders.

## LAW ENFORCEMENT AGENCIES

- Make a commitment to vigorous, visible traffic enforcement using data-driven deployment.
- Develop new mobilization campaigns that specifically focus on speeding and aggressive driving. Prioritize enforcement on corridors with high levels of pedestrian activity or with a high frequency of crashes related to speeding and aggressive driving.
- Expand and strengthen the Drug Evaluation and Classification program by training more officers in Standardized Field Sobriety Testing, Advanced Roadside Impaired Driving Enforcement and Drug Recognition Experts.
- Train all officers in identifying signs of impaired and distracted driving and prioritize disrupting these behaviors during routine patrols.
- Participate in statewide enforcement campaigns such as Click It or Ticket and Drive Sober or Get Pulled Over.
- Support public policy initiatives proven to increase safety for all road users.
- Implement electronic reporting of motor vehicle crashes and submit reports to the Statewide Traffic Accident Records System within 30 days.
- Adopt an agency policy requiring seat belt use for all officers.
- Adopt an agency policy restricting the use of handheld electronic devices while driving for all officers except in emergency situations.
- Adopt a zero-tolerance policy when enforcing seat belt use, including child safety seats and booster seats.
- Proactively enforce seat belt use in jurisdictions with a primary seat belt ordinance. Develop mobilization and awareness campaigns to promote the ordinance.
- Proactively enforce the primary seat belt component of Missouri's graduated driver license and for drivers of Commercial Motor Vehicles.
- Develop and implement blood draw policies for suspected impaired drivers by coordinating with hospitals, prosecutors and law enforcement officers certified as phlebotomists.
- Participate in outreach efforts to raise community awareness of highway safety.





## PROSECUTORS AND COURTS

- Research the use of DWI and drug courts for treating repeat impaired driving offenders.
- Collaborate with law enforcement agencies to expedite the issuance of search warrants for suspected DWIs.
- Collaborate with law enforcement agencies on proper protocols, standards and documentation needed for suspected DWIs.
- Participate in law enforcement saturation patrols to gain further insight into DWI investigations.
- Consider limits on diversion and plea agreements for repeat offenders.

## HEALTH PROFESSIONALS, PROVIDERS AND EMERGENCY RESPONDERS

- Upgrade computer-aided dispatch systems and protocols to ensure responders are sent to the correct location the first time and receive critical information to provide an appropriate level of care, including:
  - Support of in-vehicle, crash reporting technology (e.g., OnStar).
  - Proper use of emergency lights.
- Participate in traffic incident management courses and/or training exercises.
- Educate citizens on emergency preparedness and properly responding to emergency vehicles:
  - Moving over and slowing down.
  - Getting safely away from the scene or remaining in vehicle with seat belts on.
  - Having emergency medical information on hand (ICE, File of Life/ Car seat ID).
- Arrange for EMS and fire departments to teach pedestrian and bicycle safety to children by conducting safety rodeos and safety towns.
- Encourage EMS agencies to adopt NHTSA Office of EMS Provider and Patient Safety in Ambulance.
- Work with family physicians and public health departments to educate patients on safe driving habits and identifying indicators of declining driving skills amongst family members.
- Provide all first responders with high-visibility roadside apparel.
- Adopt an agency policy requiring seat belt use for all employees conducting official business.
- Adopt an agency policy restricting the use of handheld electronic devices while driving for all employees except in emergency situations.
- Provide adequate seat belts or restraints for patients and responders during transport.
- Certify hospital staff to educate new parents on child passenger safety and to perform child seat safety checks prior to leaving the hospital.
- Conduct regular safety check events for the public (car seats, helmets, etc.).

## PUBLIC WORKS AND ENGINEERING DEPARTMENTS

- Use data-driven safety analysis to identify, prioritize and quantify safety impacts of roadway improvements.
  - Conduct road safety assessments.
  - Establish safe, reasonable and consistent speed limits for specific roadway segments.
  - Prioritize safety improvements based on expected reductions in fatal and serious injury crashes.
  - Adopt a “safe system” mindset, evaluating all projects for safety improvements.
  - Implement a Safety Circuit Rider program to assist local agencies with data analysis.
- Reduce lane departure and run-off-road crashes through engineering countermeasures, such as:
  - Chevrons and curve warning signs.
  - Centerline and edgeline markings.
  - Centerline and edgeline rumble strips.
  - Enhanced roadside delineation.
  - High friction surface treatment in curves.
  - SafetyEdge<sup>SM</sup> design for all paving operations.
  - Shoulder areas or widened clear zones adjacent to the roadway.
  - Removing, relocating or shielding fixed objects and potential hazards.
- Reduce intersection crashes by improving visibility, simplifying driver decisions and reducing conflict points:
  - Advanced warning signs for inconspicuous intersections.
  - Retroreflective backplates on signals.
  - Dedicated turn lanes.
  - Restricted turning movements (right-in, right-out only; roundabouts; J-turns).
  - Improve sight distance at intersections, including rail crossings.
  - Keep vegetation trimmed so that signs and intersections are visible.
  - Protected left turn signal phasing for high-volume conflicting movements.
  - Increased spacing between intersections.
  - Calculate and implement yellow change intervals for all signalized intersections based on location-specific details.
  - Advanced signal systems that dynamically adjust timing plans based on conditions.
  - Acceleration lanes for at-grade entrances onto high-volume or high-speed roadways.
  - Expand current light and gate projects at rail crossings.
  - Close rail crossings or create grade separated intersections at rail crossings.



## PUBLIC WORKS AND ENGINEERING DEPARTMENTS

- Provide safer facilities and accommodations for pedestrians and non-motorized users:
  - High-visibility and/or raised crosswalks.
  - Pedestrian refugee islands at wider crossings.
  - Pedestrian safety beacons, such as rapid rectangular flashing beacons or HAWK signals.
  - Leading pedestrian intervals at signalized intersections.
  - Pedestrian countdown heads at signalized intersections.
  - Road diets and/or traffic calming features.
  - Bicycle lanes/facilities.
  - Roadway lighting.
  - Enhanced signing and marking.
- Adequately communicate information for construction projects and new designs.
  - Design work zones to ensure advance warning, visibility and safe passage for all road users, including the use of “smart work zones” when appropriate (changeable message signs, queue warning systems, intrusion alerts, etc.).
  - Require the use of high-visibility signs in good condition and high-visibility, reflective personal protection equipment in work zones.
- Provide educational materials and/or simulations to explain new designs considered complex, intimidating or less safe by the public.
- Take advantage of technology solutions to reduce the likelihood of crashes.
  - Use intelligent transportation systems to detect and warn of high-risk or adverse conditions.
  - Support ongoing implementation of crash avoidance systems in vehicles by maintaining retroreflectivity levels for signs and markings and by sharing traveler information and traffic control data with mobile providers.
- Integrate safety into routine planning processes.
- Implement strategies for older drivers included in the Handbook for Designing Roadways for the Aging Population.
- Install transportation systems management and operations strategies that can improve roadway safety for work zones and traffic incident management areas.

## METROPOLITAN AND REGIONAL PLANNING ORGANIZATIONS


- Establish an interdisciplinary safety committee to lead organizational actions for incorporating safety into all transportation related functions.
- Promote proven engineering countermeasures (see Public Works on page 36) and include safety as a scoring criterion in project prioritization and selection.
- Encourage cities to adopt a Vision Zero ([www.visionzeronetWORK.org](http://www.visionzeronetWORK.org)) approach to addressing transportation safety, including Complete Streets or Livable Streets.
- Make safety an overarching theme and core element of transportation plans, including regional Metropolitan Transportation Plans.
- Emphasize safety when prioritizing improvements among various modes of transportation, considering how increased multimodal alternatives and operational projects can reduce the likelihood of crashes.
- Participate in Missouri Coalition for Roadway Safety meetings and activities. Visit [www.savemolives.com](http://www.savemolives.com) for more information.
- Educate member agencies on the significance of highway safety and how their agencies can contribute to a safer road system.

## STATE OFFICIALS AND STATE AGENCIES

- Provide visible leadership that prioritizes safety at the highest levels and promotes a goal of achieving zero roadway fatalities by 2030. Keep the conversation active.
- Establish a legislative task force to consider laws most poised to reduce roadway fatalities and serious injuries in Missouri. Consider:
  - A primary seat belt law for drivers and all passengers.
  - Increased fines and/or points for violating seat belt and child safety seat laws.
  - A hands-free law prohibiting all drivers from using handheld electronic devices.
  - An all-rider helmet requirement for bicyclists and motorcyclists.
  - Child passenger safety laws requiring rear-facing car seats until age two and combined age, height and weight criteria for booster seats.
  - Enhanced graduated driver license requirements.



## STATE OFFICIALS AND STATE AGENCIES

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- Provide critical highway safety information to newly elected officials during orientation.
  - Consider additional requirements and proficiencies for obtaining or renewing a driver license.
    - Ensure prospective drivers are equipped with updated information for obtaining or renewing their license (e.g., Missouri's Driver Guide).
    - Develop and distribute a guide specifically for older drivers.
    - Educate examiners on indicators of declining driving skills.
  - Commit agency resources to participate in highway safety efforts. Consider:
    - Supporting new public policy.
    - Participating in safety advocacy groups.
    - Educating employees on highway safety.
    - Distributing safety information to more Missourians.
  - Foster an environment of increased public-private partnerships to leverage additional expertise, resources and opportunities for advancing safety messaging and supporting technologies.
  - Explore new ways to support rural and local agencies in identifying safety needs and implementing low-cost, effective countermeasures.
  - Collaborate with universities on continued research needs for highway safety advancements.
  - Allocate adequate funding for educational, enforcement, engineering and emergency services programs designed to reduce roadway fatalities and serious injuries.
  - Provide a consistent brand and messaging for all highway safety partners statewide.
  - Develop an annual state of highway safety report for public dissemination.
  - Promote recent and existing laws related to highway safety.
  - Work to expand the availability of 911 for all residents, preferably Smart 911 systems.
  - Adopt an agency policy requiring seat belt use for all state officials and employees while conducting official business.
  - Adopt an agency policy restricting the use of handheld electronic devices while driving for all state officials and employees while conducting official business.



## About Us

The Missouri Coalition for Roadway Safety exists to end fatalities and serious injuries on Missouri roadways by advocating for the prioritization and implementation of proven safety strategies. Through cooperative efforts in education, public policy, enforcement, engineering and emergency medical services, we encourage all Missourians to take an active role in making our roadways safe for everyone.



Founded in 2004, the MCRS is responsible for developing and implementing the state's strategic highway safety plan. Show-Me Zero is Missouri's fifth edition SHSP and will serve as the state's plan from 2021-2025. The purpose of the SHSP is to identify the core issues contributing to severe crashes in Missouri and to identify strategies to mitigate these concerns. Over the past year, a statewide group of individuals from multiple disciplines has worked together to develop Show-Me Zero. In addition, feedback was solicited from hundreds of additional stakeholders throughout the state. This document represents a consensus on the primary actions Missouri can take during the next five years to reduce traffic fatalities. Understanding success requires contributions from everyone, the group strived to include relevant strategies for all Missourians.

To support implementation of the SHSP, the MCRS is represented by locally focused regional coalitions as well as several issue-specific subcommittees. Together, the regional coalitions and subcommittees work to promote implementation of SHSP strategies at both the state and local levels. Some strategies are as simple as an individual committing to better choices, while others require changes to policies and procedures. Achieving the ultimate goal of zero traffic fatalities will require contributions from all of us. Thus, this plan is for all Missourians. For more information on regional coalitions and how to get involved, visit [www.savemolives.com](http://www.savemolives.com).

Over the next five years, the MCRS will routinely evaluate progress of implementing the SHSP. A Steering Committee meets quarterly to help ensure regional coalitions and subcommittees are actively promoting implementation of the SHSP within communities. As needed, the Steering Committee will adjust focus and processes to ensure a comprehensive, statewide approach for eliminating traffic fatalities and serious injuries on Missouri roadways.

[www.savemolives.com](http://www.savemolives.com)

**Advanced Roadside Impaired Driving Enforcement (ARIDE)** – a training program for law enforcement officers to observe, identify and articulate signs of impairment related to drugs, alcohol or a combination of both

**Aggressive Driving Crash** – A crash that involved a driver who was cited for one or more of the following actions: exceeding the speed limit, driving too fast for conditions, following too closely, improper passing or improper lane usage/change

**Commercial Driver License (CDL)** – License required for operating a motor vehicle with a gross vehicle weight rating greater than 10,000 pounds, buses or school buses having occupant capacities of nine or more including the driver and any vehicle that displays a hazardous materials placard

**Complete Streets** – A philosophy of designing and operating the transportation system to provide safe access for all users of all ages and abilities, including pedestrians, bicyclists, motorists and transit users of all ages and abilities

**Delineator** – A retroreflective device mounted on the roadway surface or at the side of the roadway to indicate the alignment of the roadway, especially at night or in adverse weather

**Dynamic Message Sign (DMS)** – Stationary traffic control devices capable of displaying one or more alternative messages that provide travelers with real-time, traffic-related information

**Drowsy Driver** – A driver in a crash for whom fatigue and/or falling asleep was determined to be a contributing factor of the crash

**Drug-Impaired Driver** – A driver found to be impaired by legal and/or illegal drugs to an extent that such use was determined to be a contributing factor to a crash; includes prescription and over the counter medications

**Drug Recognition Expert (DRE)** – A law enforcement officer trained to recognize impairment in drivers under the influence of drugs other than, or in addition to, alcohol

**Emergency Medical Services (EMS)** – A critical component of the emergency and trauma care system that provides response and medical transport to the sick and injured

**Fatal Crash** – A traffic crash in which at least one individual dies within 30 days from injuries sustained in the crash; a fatal crash can have multiple fatalities

**Fatality** – Represents a person who dies from injuries sustained in a traffic crash within 30 days

**Graduated Driver License (GDL)** – A phased licensure process designed to provide new drivers between 15 and 18 years old with progressive levels of experience and permissions in operating a motor vehicle, beginning with an instruction permit and transitioning to an intermediate license and, eventually, a full driver license

**High Friction Surface Treatment** – A thin layer of specifically engineered aggregate set in a binder intended to provide increased friction between the road surface and a vehicle's tires; often used in curves or in advance of intersections

**High Risk Rural Roads** – A roadway classified as a rural major or minor collector or a rural local road with severe crash experience in the previous five-year period

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**ICE** – Stands for In Case of Emergency; enables first responders to identify victims and their emergency contacts; typically entered in a person’s mobile phone contacts under the name ICE

**Intelligent Transportation Systems (ITS)** – a technology, application or platform that improves the quality of transportation, or achieves other outcomes based on applications that monitor, manage or enhance transportation systems

**Non-Motorized User** – an individual who uses the transportation system by walking, biking or some other form of non-powered transportation devices (i.e., wheelchairs)

**Occupant** – A driver or passenger on or in a motor vehicle

**Pedestrian Hybrid Beacon** – A traffic control device used to stop roadway traffic, when activated, to allow pedestrians to cross the road safely

**Physically Impaired Driver** – A driver with a physical condition or impairment that was determined to be a contributing factor to a crash; includes illness and not wearing glasses or contact lenses when required

**Road Diet** – a technique in transportation planning whereby the number of travel lanes and/or effective width of the road is reduced in order to achieve systemic improvements, often including a reduction in speed

**Safe Systems** – An approach to making roadway improvements that recognizes human errors and designs the transportation system in such a way to eliminate or minimize the consequences of driver mistakes

**Safety Edge** – A 30-35-degree asphalt wedge placed or formed along the edge of roadway pavement intended to allow drivers an easier recovery should they drift off the roadway

**Serious Injury/Suspected Serious Injury** – A non-fatal injury sustained in a traffic crash resulting in: severe laceration resulting in exposure of underlying tissue/muscle/organs or resulting in significant loss of blood; a broken or distorted extremity; crush injuries; a suspected skull, chest or abdominal injury other than bruises or minor lacerations; second or third degree burns on at least 10% of the body; unconsciousness when taken from the scene; or paralysis

**Smart 911** – a technology allowing citizens to provide medical needs through a registered safety profile; information is automatically displayed on the screen for 911 operators to assist in emergency response

**Standardized Field Sobriety Testing (SFST)** – a system of tests used by law enforcement officers to determine if an individual suspected of impaired driving is intoxicated with alcohol and/or other drugs

**Substance-Impaired Driver** – A driver found to be impaired by alcohol and/or other drugs to an extent that such use was determined to be a contributing factor to a crash

**Systemic Safety Improvements** – Improvements that are implemented across a wide range of roadway facilities that share common characteristics associated with increased frequencies of certain severe traffic crash types

**Traffic Incident Management (TIM)** – A planned and coordinated multi-disciplinary process to detect, respond to and clear traffic incidents so traffic flow may be restored as quickly as possible

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We would like to acknowledge the following organizations for participating in the SHSP working group:

AAA Automobile Club of Missouri  
American Traffic Safety Services Association  
Brain Injury Association of Missouri  
Buchanan County EMS  
City of Columbia  
East-West Gateway Council of Governments  
Federal Highway Administration  
Federal Motor Carrier Safety Administration  
Independence Police Department  
Jefferson City Police Department  
Jefferson County  
Kansas City Health Department  
Marion County Ambulance District  
Missouri Department of Health and Senior Services  
Missouri Department of Elementary and Secondary Education  
Missouri Department of Public Safety  
Missouri Department of Revenue

Missouri Department of Transportation  
Missouri Driver Safety and Education Association  
Missouri Office of Prosecution Services  
Missouri Office of State Courts Administrator  
Missouri Safety Center  
Missouri State Highway Patrol  
Mo-Kan Regional Council  
National Highway Traffic and Safety Administration  
Northwest Missouri Regional Council of Governments  
Safety and Health Council of Western Missouri  
SSM Health  
St. Joseph Area Transportation Study Organization  
St. Louis Metro Police Department  
ThinkFirst Missouri  
University of Missouri Health Care  
Washington University

*Missouri Coalition  
for Roadway Safety*



[www.savemolives.com](http://www.savemolives.com)